

# INTRODUCTION TO THE AEROBIC BUILDING PHASE

By now, you are well into the Base Training Phase of your duathlon training program. Not only have you increased your total weekly mileage, but your long run and ride sessions are increasing in distance as well.

The two major benefits that your Base-Phase training has given you are; 1) You have learned to integrate a balanced mix of running AND cycling into your weekly schedule, and 2) By increasing your mileage – especially the longer days – you have better developed your circulatory system, and improved the system of capillaries that carry blood to and from your working muscles.

At this point, it is time to begin planning for the next phase of training – the Aerobic Building Phase.

Your 12 weeks of Base-Phase training has brought your fitness to a level where you will now be able to handle an increase in intensity.

This phase of training will target two aspects of performance – your VO2 Max and your Lactate Threshold.

VO2 Max refers to your body's ultimate ability to use oxygen. As you increase your level of exertion on a run or ride, your muscles require more oxygen to produce that increase in power. Eventually, your body will not be capable of extracting any more oxygen from your blood. This point is called your VO2 Max.

Scientists measure VO2 Max in liters of oxygen consumed per minute divided by your body weight in kilograms – and the only way to accurately measure it is on a treadmill or bicycle ergometer in a laboratory.

Originally, it was believed that VO2 Max was determined completely by genetics, and that after just 6 months of regular running or cycling, your VO2 Max would be at its peak.

Now we know that although genetics does

play a large part in determining VO2 Max, it can be improved through specialized training.

Some of our training in this phase will target your VO2 Max.

Lactate Threshold (LTHR) or Anaerobic Threshold (AT) are two terms for the same thing. LTHR is the preferred term these days, but you may see or hear people using either term because they are interchangeable.

Like VO2 Max, LTHR is another limit set by your body – this one, however, refers to your body's ability to process lactic acid.

As your running or cycling effort increases – either due to a hill, headwind, or just going faster – your muscles must work harder. A by-product of that work is lactic acid, and the more work you do, the more lactic acid your muscles produce.

This is the source of that burning feeling in your legs when you bike up a steep hill!

Your body can do a great job of processing that lactic acid out of your system – but only to the point that you have trained it to. Beyond that point, the lactic acid begins to accumulate.

When your level of exertion crosses that line between being able to process the lactic acid and having lactic acid accumulate, you have crossed your lactate threshold.

The good news is that LTHR is totally trainable, and while scientists look at LTHR as a percentage of your VO2 Max, for athletes it is much easier to correlate it with a specific Heart Rate. For those without a Heart Rate Monitor, LTHR effort is roughly equivalent to the effort you could maintain for a one-hour race.

Most of our training during this phase will target your LTHR because that will be the limiting factor in your performance for multisport races over 15-20 minutes in duration – which means all multisport races.

# Designing the Aerobic Building Phase

To design Week-13 of the program, we first need to look back at Weeks 9-11. The best way to do this is with Worksheet-B.

From your Base-Phase Master-Plan, copy Week-9 into the appropriate column on Worksheet-B. Also fill in your Week-11 Long Run distance as well as the distance of the longest ride you completed during the Base-Phase of training at the bottom of Worksheet-B. These are the numbers we will use to determine your training load for the 6-week Aerobic Building Phase.

Also, before we go any further, please jot down any conflicts to training you anticipate during the next 6 weeks. Remember, when the seasons change, the distractions from training can change as well. It will help you to devise a training plan that works if you account for these BEFORE you schedule your workouts.

While we are on the subject of the changing seasons and the things that will affect your training, we shouldn't forget races. Be sure to plan ahead for your favorite upcoming events.

You will find another copy of Worksheet-A in this packet. You may find the "Current Training" and "Training Minutes Available" columns helpful for revising your weekly routine.

As we saw in the introduction to this training phase, the primary goal of the next 6 weeks is to improve your LTHR. To do this, we will actually build upon one of the key workouts you were doing during your Base-Phase, and that workout is the Tempo Run or Ride.

Tempo Training is the best way to improve your LTHR. By improving this one factor, you will be able to run or ride at a harder effort without accumulating lactic acid in your system. Since lactic acid is the big hurdle between *any athlete* and faster times, improving your tolerance will push that hurdle farther down the track!

This next 6 weeks, however, is also the hardest 6-weeks of the program, because you will be performing several fast efforts per week while maintaining your late Base-Phase mileage. But don't let that scare you off, because during this phase, we will alternate our long run on one week with our long ride the next.

This phase will also feature two 3-week cycles. You will perform 2 hard weeks, then take an easier week in each of the rotations.

## Setting-Up Weeks 13 & 14

Well, on to Week-13. This week, we will do our long run, saving our long ride for Week-14. Schedule your long run day on Worksheet-B and pencil in the distance so that it is the same as your Long Run in Week-11 of your Base-Phase Master Plan. By now, this should be 8 miles or more!

In place of your Long Ride, schedule in a Tempo Ride. If you did not incorporate any Tempo Rides into your Base-Phase training, then you will enjoy the speed! A word of advice, however, is that it is easy to go out waaaaaayyyyyy to hard on the bike, and pay for it several miles later. Build into your tempo pace over the first few minutes, then maintain it.

A good recommendation for a tempo ride during this phase is to measure out a course of approximately 10 miles. Perform an easy warm-up ride, then ride your course for time. You can compare your times from week to week over the route and watch your improvement.

A loop course, or out-and-back work best for tempo-type rides because the springtime winds can seriously affect your ride times and efforts. A loop or out-and-back course evens things out somewhat.

Also, be sure to cool down following the hard effort with 5-10 minutes of easy spinning.

Next, we will select a day for a tempo run. If you were performing a Tempo Run during the Base-Phase, then it is probably easiest to keep it on the same day – and at the same effort.

If you will be starting Tempo Running for the first time in Week-13, then select a day that gives you at least a day of separation between it and your Long Run and your Tempo Ride. Please refer to the “Setting Your Mileage for Week-1” section of the Base-Phase training guide for tips on Tempo Run intensity.

For everyone, you want the duration of the tempo portion of the run to be in the 20-30 minute range.

For the remainder of your Week-13 schedule, simply fill in the rest of your Easy or Off Days from Week-9. Also, keep in mind that if you plan to race during this phase, just substitute it for a Tempo run or Ride on your weekly schedule.

If you are in your 20's, you have been training for years and feel quite fit, or you recover quickly from your workouts, feel free to include a third Tempo session (either running or cycling) during your training week if you so desire. Just be sure to monitor your body's reaction to the stress. Cycling Tempo Workouts tend to be easier to tolerate because they are low impact. If you begin feeling fatigued or unusually achy, eliminate the extra session, or switch it from running to cycling.

Week-14 will be identical to Week-13, except you will do a long ride instead of a long run. First, schedule your long-ride in place of the Week-13 Tempo Ride. The distance should be the same as the distance of your longest ride during the Base-Phase or 25 miles, whichever is longer.

Next, fill in your Tempo Run. This should be the same day, duration, and intensity as your Week-13 Tempo Run.

Now, we need to schedule a day for your tempo ride. Select one of the days during the week when you typically do an Easy Ride. This ride should be on a day that gives you at least a day of separation between it and your Long Run and your Tempo Run.

Try to keep your tempo ride the same distance and duration as you did in Week-13. Since

this will probably end up being a week day for most of you, the length may need to be cut shorter. With the longer daylight hours, however, there is often time to squeeze in a tempo ride after work.

Well, that's it for the hard days on Week-14. Simply fill in the other days as Easy Runs or Rides, or as days off.

With Worksheet-B complete, it is time to transfer those two weeks to your Aerobic Building Phase Master Plan.

## **Filling Out your Aerobic Building Phase Master Plan**

With Weeks 13 & 14 done, the real work is complete. Week-15 is identical to Week-8 of the Base-Phase Master Plan. It is a recovery week. Then Weeks 16-18 follow the same schedule as Weeks 13-15.

If you felt great during Weeks 13-15, then you may want to throw in another Tempo day to this cycle. If you do, try an additional Tempo Run one week and a Tempo Ride the next. Just remember to listen to your body for signs of fatigue.

# *Aerobic Building-Phase Master Plan*

Week	Sun	Mon	Tue	Wed	Thu	Fri	Sat
13							
14							
15							
16							
17							
18							

## *Useful Abbreviations*

**EZ** - an Easy Run or Ride

**Form** - a form workout on the run

**K** - Kilometers

**Long** - A Long Run or Ride

**Mi.** - Miles

**Min.** - Minutes

**Mod.** - A Moderate Paced Run or Ride

**Tech** - A technique workout on the bike

**Tempo** - a Tempo Run or Ride at AT Effort

Use this space to list comments about specific workouts and races that may be helpful information for you this season. Always be sure to include the date.

# *Racing Season Master Plan*

<b>Week</b>	<b>Sun</b>	<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>	<b>Sat</b>
<b>19</b>							
<b>20</b>							
<b>21</b>							
<b>22</b>							
<b>23</b>							
<b>24</b>							

# Worksheet - B

Day	Week-9		Week-13		Week-14	
	Time / Dist	Effort	Time / Dist	Effort	Time / Dist	Effort
<b>Mon.</b>	R:		R:		R:	
	B:		B:		B:	
<b>Tue.</b>	R:		R:		R:	
	B:		B:		B:	
<b>Wed.</b>	R:		R:		R:	
	B:		B:		B:	
<b>Thu.</b>	R:		R:		R:	
	B:		B:		B:	
<b>Fri.</b>	R:		R:		R:	
	B:		B:		B:	
<b>Sat.</b>	R:		R:		R:	
	B:		B:		B:	
<b>Sun.</b>	R:		R:		R:	
	B:		B:		B:	
<b>Total</b>	R: B:	<b>XXX</b>	R: B:	<b>XXX</b>	R: B:	<b>XXX</b>

Week-11 Long Run Distance: \_\_\_\_\_

Longest Base-Phase Ride: \_\_\_\_\_